## RAILWAY JOTTINGS.

The railway calls at present average about one million sterling a week. New calls and loans to the amount of 124,675,655*l.* were authorized by the Acts passed during the last two sessions. Of this sum 28,320,020*l.* have been already raised, leaving 96,855,635*l.* yet to be called up in order to complete the lines granted in 1845 and 1846. By the bills of the present session, moreover, capital to the extent of 47,486,674*l.* is proposed to be raised,—31,141,674*l.* for extensions and other improvements of lines already opened, and 16,345,000*l.* for lines not yet opened. The calls for May, it is calculated, will not fall short of 3,000,000*l.* ——During the present session, too, the mere expenses for bills in Parliament have been estimated at half a million sterling, and during the two last sessions at 8,000,000*l.* sterling!——We should like to have a return of the expenses, or the dead loss both of money and time, incurred in futile attempts to save both, by that obstinate persistance in hasty and insufficient *construction*—if such it can properly be called—which is almost every day exposing engineers or architects, builders or contractors, companies, and the art and science of construction in general in this country, to shame and degradation—and which no ridicule, exposure, or reproach appears to check or to diminish. Certainly, so far from shewing any thing like a saving of either time or money, such a return would only prove the decided loss of both, as well as of national and individual reputation. ——In order, it is said, to save the expense and time necessary in the erection of supporting centres, as usual, in the construction of a bridge 'of considerable span' at Dudley, on the Oxford, Worcester, and Wolverhampton line, near to the Dudley tunnel, the brickwork of the arch was completed, as is sometimes done in arches of small span, before the earth was excavated; and the consequence has been, that no sooner was the excavation from beneath the arch begun than the destruction of the arch itself commenced; and notwithstanding the stoppage of the excavation, and the proppage of the work, so soon as this 'unexpected event' took place, the weight of 'some boys' seems to have been all that was necessary to its consummation: the brickwork gave way under them, and they were scarcely warned off the premises when five yards in length of the middle of the arch, and about two yards in depth, fell in with a sudden crash. 'Props and supporters' were then multiplied 'in all directions' for the protection of what remained; but the bridge, to be considered safe, will require, it is thought, to be entirely rebuilt, and at all events many say it will take at least 1,000*l.* to repair it (over and above the expense of all the props and supports, of course, which ought to have been applied in the form of centering in the outset). The expense, it is stated, 'will fall upon the company, in consequence of the work having been duly certified as complete.'——And this reminds us, by the way, of another of the latest batch of botch-work catastrophes, namely, that on the Waterford and Kilkenny line, in which, while Mr. James Walker, the Government engineer, was in the act, it seems, of commenting most favourably on the 'substantial character of the works,' one of the 'largest viaducts on the line,' unable to stand any longer in the face of such misrepresentation, was itself in the very act of tumbling to pieces, maiming or killing fourteen or fifteen individuals in its own downfall. A considerable portion of this structure was of brick, although in a locality abounding in the finest mountain limestone.——A melancholy realization of Elihu Burritt's romantic incident, which *all but* happened in America, has just occurred in our own country, by the plunging of a whole train through a 'noble structure' into the river beneath: but this is too serious a matter for a mere jotting.——A wooden-bridge near Hanwell, on the Great Western, burst suddenly out in flames the other day, and was considerably injured, the heat being so intense, that eight out of ten iron girders that were supported by cast-iron columns on which the timber was laid snapped asunder during their expansion. The origin of the fire is still a mystery, although the officials still attribute it to the fall of a piece of burning coke from an engine. Perhaps the only wonder is, so few accidents of a like nature happen on wooden railway works.——The bricklayers at work under Messrs. T. and S. Walton, at the new station on the Trent Valley line, at Tamworth, struck work on Monday week for an advance of wages from 4s. to 4s. 6d. a day, on account of the continuance of the famine prices of provisions, as we presume. Messrs. Walton summoned nine of them for neglect of weekly service, and the magistrates, instead of imprisonment, decided that they should forfeit the wages due to them for a day and a quarter's work, and pay all expenses. ——At Derby, the joiners employed by Messrs. Smith and Dagley, railway carriage builders, have struck work for an advance of 2s. a week, paid by all joinery establishments in Derby not in the same line of trade.——The Electro Telegraphic Company, says the *Manchester Advertiser*, intend immediately to commence laying their wires from the Victoria station to the Exchange.——A rumour is prevalent, says the *Newcastle Guardian*, that the ceremony of laying the foundation-stone of the high level bridge across the Tyne, at Newcastle, is to be performed shortly, by the Right Hon. the Earl of Zetland, as Grand Master of the Freemasons. ——At Carlisle, where the Caledonian line starts northward, workmen are busy near the jail, founding the terminus, in which the Caledonian, the Newcastle, the Lancaster, and the Maryport lines converge. A great number of men are busy in forming the 'stupendous' bridge of stone across the Eden. To prevent inundations, the contractors have, as it were, indented palisades, or dry bridges, into the mound at three different places, through which the waters will disperse. Crossing the river, upwards of a hundred labourers, for the length of a mile, are engaged in bringing this part to the required level. Between the bridge at Eden and Blackrigg, three or four stone bridges over the line no public roads are completed, and in use. Blackrigg moss embankment is formed partly of a soft, light peat-like earth, taken from the bog, and partly of sand brought from a distance, which have been mixed together, the latter by itself, floating on the light stratum beneath, and forming the upper stratum in which the sleepers are embedded. Temporary rails have only as yet been laid over it, but it may soon be made ready to receive them permanently, unless, indeed, it disappear,—rails and all,—as so many others have done, the only surety against such a mishap probably being the light and boggy texture of the turf or peaty-earth on which the sand and rails are floated. After passing Gretna, the line for about a mile in extent is carried over an embankment. On Colonel Graham's property there is a difficult and extensive cutting, at which a great number of men have been engaged for the last twelve months, the earth being conveyed to fill up a deep hollow at a short distance. From Langholm to Ecclefechan no labourers are now at work, operations in this quarter having been nearly completed; while on to Beattock the line is in a very forward state. At this place the station-house is rising high above its foundations, and onwards to Harthope all the mason work is entirely finished.——Mr. S. B. Rogers, of Nantyglo, has published a pamphlet on the practicability of constructing 10,000 miles of railway through Europe and Asia, and thus connecting London and Paris with Canton and our East Indian possessions, and all the great cities and provinces on its route. The route proposed is by Paris, Munich, Vienna, Belgrade, and Constantinople; thence through Syria, Persia, Beeloochistan, and Scinde, to Oodipoor, Calcutta, through the Birman Empire, and the north part of Cochin China, to Canton.——The new railway bridge over the Susquehanna, at Harrisburg, United States, is about 4,000 feet long, and consists of 23 arches, averaging 173 feet each, and two arched viaducts, one 53 feet, the other 84 feet long. The entire cost is said to be short of 100,000 dollars.

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The Dustman Interest.—Lord Morpeth's Bill for putting down typhus, and carrying off dirt, is meeting with the violent opposition of the City Corporation and the Marylebone vestry. We propose that the friends and opponents of this measure be in future known as the "Health of Towns Party," and the "Filth of Towns Party."—*Man in the Moon.*

## BLASTING WITH GUN-COTTON.

In reply to a correspondent who asks for some hints as to blasting with gun-cotton, we quote the result of some experiments made with it on the works of the Stour Valley Railway. The first experiment took place at Bingley Park, in a heading about forty feet from the surface. The rock here is merely compacted sand, difficult to excavate, but from its semifriable character not favourable to the action of the explosive cotton. To test the comparative powers of cotton and powder, shot-holes were formed in opposite headings, as nearly as possible alike in their depth and situation. Into one of these holes a charge of gunpowder, weighing 50 oz., was placed, and in the other 8 oz. of cotton, being nearly in proportion of 6 to 1. The cotton is inclosed in a pasteboard case, and in appearance very much resembles a large rocket, the fuse being introduced at one end. The arrangements having been completed, the cotton was fired, and a sharp report, accompanied by no perceptible vibration, and no smoke excepting that from the fuse, immediately followed. The powder caused the usual amount of noise, smoke, and vibration. On examining the rock, it was found that the powder had dislodged a greater quantity of sand. A second and third experiment were made, at an open cutting in Swallow Street, where the results were more accurately and more successfully tested. The soil was of the same character, though less compact. Into holes 5 feet 3 inches deep, charges of 50 oz. of powder to 10 oz. of cotton, being in the proportion of 5 to 1, were placed. In the case of the cotton, the rock was heaved at once from its bed almost in one compact mass, while the powder seemed to shake and loosen the soil so far as its action extended. This experiment was also considered to be in favour of the powder in its application to this description of blasting; as, although the cotton upheaved an immense mass, it was not broken up into conveniently removable portions like those dislodged by the powder. In the third experiment, also in the open cutting, charges of 62 oz. of powder and 15 of cotton, being a little more than a proportion of 4 to 1, were used. Here the advantages were decidedly in favour of the cotton. The fourth and last experiment was tried in the tunnel under Broad-street, with charges of 62½ oz. of powder to 13 oz. of cotton; the latter being placed in the hole loose. The greater depth of the hole in which the powder was placed was in favour of the powder, and the results were against the cotton. It appears, therefore, from these experiments, say the local papers, that used in the proportion of 4 to 1, the cotton is a more powerful and efficient explosive agent than powder, and its noise and vibration is in the inverse ratio to its dislodging power; while in badly ventilated mines, and in railway excavations, during certain states of the atmosphere, its freedom from smoke is a strong recommendation.

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## COMPETITION DESIGNS FOR A PAIR OF COTTAGES.

In the above competition, advertised for some time since in The Builder, the successful competitors, out of nearly 200 designs submitted (alack, alack!), were—1st, Mr. H. W. Burgess, of Reading; 2nd, Mr. J. A. Robson, of London; and 3rd, Mr. C. A. Gould, of London.

A country correspondent complains that the parties advertising for these designs have not returned his plans, although he simply asked them to send the drawings to the nearest coach-office. He must request some friend to call for them. Architects are sufficiently honoured if gentlemen wanting plans will even *look* at the result of their labour. They must be very unreasonable to expect to have them returned.

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The Amended Buildings Act.—Sir: According to my interpretation of the new Act, the supposed consent of about 650 members of Parliament is necessary to pass an Act of Parliament, called a Buildings Act; and when so passed, a council of two or three are empowered to upset it at discretion. It is only in The Builder that the Trade can watch these blunderings, and through your columns may hope to check them.—Yours, &c.

May 25, 1847. Vigil.

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